(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/047029 A1

(51) International Patent Classification[7]: G06T 17/00

(21) International Application Number:
PCT/IB2003/005130

(22) International Filing Date:
13 November 2003 (13.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
102 54 323.2 21 November 2002 (21.11.2002) DE

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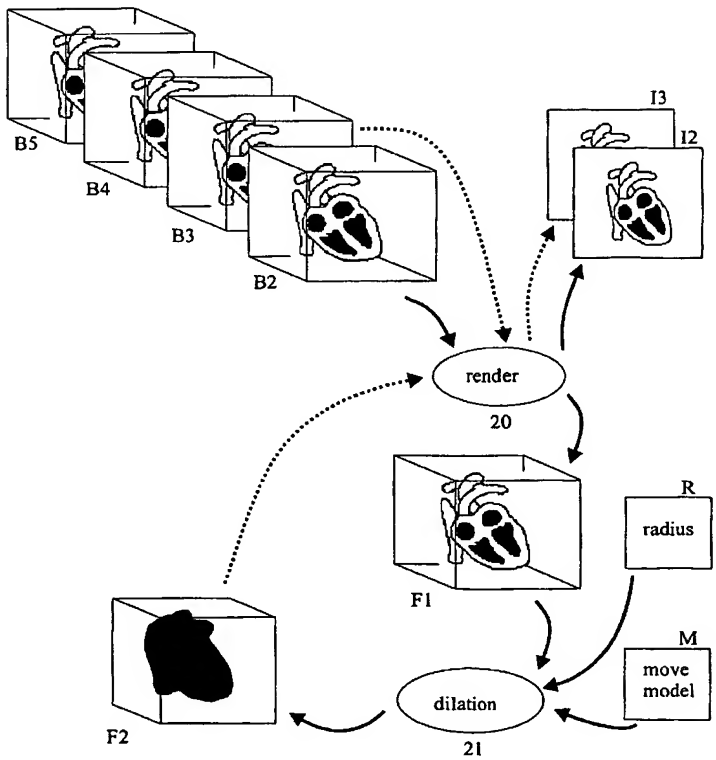
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,

[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR VISUALIZING A SEQUENCE OF VOLUME IMAGES



(57) Abstract: The invention relates to a method and to an apparatus for visualizing a sequence of volume images of a moving object. Methods and apparatus of this kind are used in cases where a sequence of three-dimensional volume images is to be rendered as a two-dimensional image, for example, for a viewer. The invention utilizes the fact that usually only the volume values of a part of the voxels are relevant for the derivation of a two-dimensional image from a volume image. In the case of a sequence of volume images of a moving object, the derivations of the two dimensional images can be accelerated by storing the voxels which are relevant for the visualization during the visualization of a first volume image and by deriving the relevant two-dimensional image during the visualization of a second volume image exclusively from the volume values of the stored voxels and from voxels neighboring such stored voxels. The selection of volume values of neighboring voxels for use is dependent on the motion of the object. The voxels of the second volume image which are relevant for the visualization are stored again and used accordingly for the visualization of a third volume image. These steps are repeated accordingly for further volume images of the sequence.

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RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States** *(regional)*: ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/IB 03/05130

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06T17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06T

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, BIOSIS, COMPENDEX, EMBASE, FSTA, INSPEC, PAJ, IBM-TDB, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HAN-WEI SHEN ET AL: "Differential volume rendering: a fast volume visualization technique for flow animation" VISUALIZATION, 1994., VISUALIZATION '94, PROCEEDINGS., IEEE CONFERENCE ON WASHINGTON, DC, USA 17-21 OCT. 1994, LOS ALAMITOS, CA, USA,IEEE COMPUT. SOC, 17 October 1994 (1994-10-17), pages 180-187,CP20, XP010100605 ISBN: 0-8186-6627-7 abstract	1,3-5,7, 11
Y	page 181, left-hand column, line 3 -page 182, right-hand column, line 31 page 183, right-hand column, line 9 - line 39 page 184, left-hand column, line 17 -right-hand column, line 32	2,6,8-10

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
30 January 2004	06/02/2004

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Klemencic, A

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 169 817 B1 (PARKER KEVIN J ET AL) 2 January 2001 (2001-01-02) abstract column 1, line 5 - line 19 column 2, line 36 - line 63 column 3, line 8 - line 42 column 17, line 53 -column 18, line 25	2,8-10
Y	YAGEL R ET AL: "Accelerating volume animation by space-leaping" VISUALIZATION, 1993. VISUALIZATION '93, PROCEEDINGS., IEEE CONFERENCE ON SAN JOSE, CA, USA 25-29 OCT. 1993, LOS ALAMITOS, CA, USA,IEEE COMPUT. SOC, US, 25 October 1993 (1993-10-25), pages 62-69, XP010138147 ISBN: 0-8186-3940-7 abstract	6
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INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter[redacted]plication No
PCT/IB 03/05130

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